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## CENTRAL INTELLIGENCE AGENCY

## INFORMATION REPORT

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1. The Kolomna Heavy Machine-Tool Factory (Kolomnenskiy Zavod Tyazhelogo Stankostroyeniya) is located on the river Oka, in the south part of the town of Kolomna 115 km southeast of Moscow. The factory is about  $2\frac{1}{2}$  km west of the confluence of the Moskva and Oka rivers (see sketch).

Communications

2. A branch railway line runs to the factory from the Kolomna - Ozery line which is itself a branch line of the Moscow - Ryazan railway.

Control

3. Until March 1953 the factory belonged to the Ministry of Machine-Tool Building. It now belongs to the Ministry of Machine Building and is directly subordinate to the Chief Directorate of the Heavy Machine Tool Building and Press Industry (Glavnoye Upravleniye Promyshlennosti Tyazhelogo Stankostroyeniya i Pressov; abbreviated form: Glavyazhstankopress).

History

4. The factory was established after the war on the site of the Metal Working Factory i/n Engels which had been built before the war. After the end of the war the Engels factory began to produce metal-cutting machine tools of various types.
5. In 1947 it was decided to reconstruct the factory, to erect large new factory buildings, and to organize the largest heavy machine tool factory in the USSR. For this purpose the Kolomstankostroy Trust was established with offices near Golotvino station (3 km from Kolomna station). Frayman was appointed head of this trust which started, at the end of 1948, the construction of factory buildings and dwellings for the personnel. Construction is still in progress.

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25 YEAR

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The new factory buildings were built to the west of the old factory. By 1953 six large buildings had been erected, the largest of them being the New Assembly Shop (Novosborochnyy Tsekh) and the New Foundry Shop (Novoliteyny Tsekh). Through the former runs a railway to facilitate the loading of the enormous "unique" machine-tools which the factory has already begun to produce and will produce in large numbers in the future. The new factory buildings have received the latest equipment of domestic and foreign origin.

6. 1948 should be regarded as the year in which the Kolomna Machine-Tool Factory was established.

Type of Production

7. (a) In 1947 the factory started producing medium and heavy turning lathes of the "1 D 65" type, gear-milling machines, hydraulic presses, and hydraulic pumps.

(b) In 1948 the factory organized the production of new gear-milling machines of four types and started to produce the first double-sided turret lathes (Karuselnyy).

(c) In 1949 and 1950 the serial production of large turret lathes was organized, the serial production of gear-milling machines was continued, and broaching machines with tractive power of 40, 70, and 100 tons were produced.

(d) In 1951, 1952, and 1953 work was started also in the new buildings. The factory organized the production of very large turret lathes, continued the serial production of turning lathes, gear-milling machines and turret lathes, hydraulic presses and hydraulic pumps, started the serial production of broaching machines, and built several types of new heavy machine-tools: turning, slotting, transverse planing, multi-spindle drilling machines, etc.

(e) Cog wheels of large diameter are being produced in response to numerous orders.

Articles Produced

8. (a) Heavy double-sided turret lathe with press button control, equipped with main and auxiliary panels for machining cylindrical and conical surfaces of articles:

- 1) Turret lathe "1553" (for machining cylindrical and conical surfaces of articles). Two vertical and one lateral rest. Maximum diameter of article to be machined: 2300 mm (without lateral rest). Maximum height of article to be machined: 1250 mm. Power of electric motor: 40 kw. Weight of machine: 35 tons.
- 2) Turret lathe "1556" Two vertical rests and one lateral rest. Maximum diameter of article to be machined: 2500 mm. Maximum height of article to be machined: 2000 mm. Electric motor: 40 kw. Maximum weight of article to be machined: 14 tons. Number of speeds of face-plate: 18. Number of feeds of rests: 12. Length of machine: 6920 mm; width: 3580 mm; height: 5600 mm. Weight of machine: 46 tons.
- 3) Turret Lathe "1532"  
2 vertical rest and 1 lateral rest.  
Maximum diameter of article to be machined: 3200 mm,  
Maximum height of article to be machined: 2000 mm  
Maximum weight of article to be machined: 14 tons  
Electric motor: 55 kw  
Number of speeds of face-plate: 18.  
Number of feeds of rests: 12.  
Length of machine: 9000 mm; height: 7000 mm; width: 5000 mm  
Weight of machine: 68 tons.

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4) Turret Lathe "1565"

2 vertical rests and 1 lateral rest.  
 Maximum diameter of article to be machined: 5000 mm.  
 Maximum height of article to be machined: 3200 mm.  
 Maximum weight of article to be machined 45 tons.  
 Electric motor: 70 kw.  
 Number of speeds of face-plate: 18.  
 Number of feeds of rests: 12.  
 Length of machine: 11,000 mm; width: 5800 mm; height: 8500 mm.  
 Weight of machine: 130 tons.

5) Turret Lathe (for machining of article with maximum diameter of 9000 mm, maximum height of 5000 mm, and maximum weight of 150 tons).

Power of drive (total): 185 kw.  
 Infinitely variable control of face-plate.  
 Weight of machine: about 420 tons.

6) Turret Lathe (unique Unikalnyy) for machining article with maximum diameter of 13,000 mm, maximum height of 5000 mm, and maximum weight of 170 tons).

Power of drive (total power of 12 electric motors): about 200 kw.  
 Infinitely variable control of face-plate.  
 Weight of machine: about 520 tons; height: about 14 m.  
 Maximum speed of work: 300 m. per minute.

## 7) Working drawings are being prepared for a projected turret lathe for machining an article with maximum diameter of 16,000 mm (with gantry moved aside 22,000 mm), maximum height of 6000 mm, and maximum weight of 200 tons.

Total power of drive: about 350 kw.  
 Planned weight of machine: about 1400 tons.

(b) Heavy gear-milling machines for milling of large cylindrical gear wheels with straight and sloping teeth and worm wheels with helical teeth. The four types of gear-milling machines produced have been standardized.1) Gear-milling Machine "5330"

Maximum diameter of gear wheels to be milled: 1500 mm (without rear support) (Stoyka); with rear support: 800 mm.  
 Maximum width of gear wheels to be milled: 500 mm.  
 Electric motors: 12 kw, 4.4 kw, 1.8 kw, 0.5 kw.  
 Diameter of working table: about 1100 mm. Diameter of outside table: 1350 mm.  
 Length of machine: 5750 mm; width: 2700 mm; height: 3500 mm.  
 Weight of machine: about 28,500 kg.  
 Number of speeds of spindle: 17.

2) Gear-milling machine for milling gear wheels with maximum diameter of 2500 mm.3) Gear-milling machine for milling gear wheels with maximum diameter of 3500 mm.4) Gear-milling machine for milling gear wheels with maximum diameter of 5000 mm and with maximum width of 2200 mm. Weight of machine: 125 tons; height: 5100 mm.5) Horizontal Gear-milling Machine "5375"

For cutting gear wheels with maximum diameter of 1250 mm, and width of 3000 mm.  
 Electric motor: 20 kw. Weight of machine: 65 tons.

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(c) Heavy turning lathes

1) Turning lathe "1 D 65" for turning large articles in jig and between centers.

Distance between centers: 3000 mm; height of centers: 500 mm.  
 Spindle with 12 different speeds (shifting of gear wheels of gearbox).  
 Maximum diameter of article to be machined above the rest: 645 mm.  
 Maximum diameter of article to be machined above the stand: 1020 mm.  
 Maximum diameter of rod to be machined: 97 mm.  
 Three phase electric motor: 17 kw.  
 Length of machine: 6000 mm; width: 2800 mm; height: 1600 mm.  
 Weight of machine: 10,200 kg.

2) Turning lathe with 5000 mm between the centers and height of centers 500 mm.  
 Length of machine: 8000 mm; width: 2800 mm; height: 1600 mm.  
 Weight ~ 11,700 kg.

(d) Heavy broaching machines for machining precision openings in heavy articles:

1) Broaching machine with maximum tractive power of 40 tons.

Operating speed of 1-8 m per minute.  
 Reverse speed of 24 m per minute.  
 Electric motor: 35 kw.  
 Weight of machine: 12,000 kg.

2) Broaching machine with maximum tractive force of 70 tons.  
 3) Broaching machine with maximum tractive force of 100 tons.

(e) Gear Slotting Machines

Maximum travel of sliding block: 1000 mm.  
 Distance from plane of table to lower end of guides of sliding block: 1100 mm.  
 Diameter of table: 1250 mm. Maximum number of double movements of sliding block: 30 per minute.  
 Electric motor: 15 kw.  
 Weight of machine: 20 tons.

(f) Machines of which only a few models have been produced: heavy transverse planing machines and heavy multi-spindle boring machines.

(g) Hydraulic Presses

1) Of 100 tons.  
 2) "GU-200" of 200 tons.  
 3) Of 300 tons.  
 4) Pumps for hydraulic press installations (plunger pumps of various types).

(h) Gear wheels of very large diameters for walking excavators and for locks, hydroelectric stations, etc.

Actual Output

9. proximate output for six months of 1953, the ap-  
was as follows:

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- (a) Serial production of turning lathes "1 D 65": 80 to 100. Two new types of heavier turning lathes were produced.
- (b) Serial production of double-sided turret lathes of type "1556", "1532", "1553", and "1565": about 150.
- (c) Serial production of gear milling machines of five different types: 90 to 100.
- (d) Serial production of broaching machines of three types: about 30.
- (e) Turret lathes for machining articles with maximum diameter of 9 m: 2.
- (f) Turret lathes for articles with maximum diameter of 13 m.: 1.
- (g) Serial production of hydraulic presses of various types: a large number, about 200 or more.
- (h) Serial production of hydraulic pumps: a large number, approximate number not known.
- (i) Transverse planing machines, gear slotting machines, multi-spindle boring machines: only a few specimens.
- (j) Gear wheels of large diameter for turntables of excavators and for other purposes for various factories: a large number.

Personnel

10. Among the officials of the plant are:

- (a) Director: Nosovskiy, who replaced the former director Blagushin in 1948.
- (b) Deputy Director: Nekhotyashchiy.
- (c) Chief Engineer: Shakhray.
- (d) Chief Technologist: Sukhiyenko.
- (e) Chief Mechanician: Malyshevskiy.
- (f) Chief Metallurgist: Andriyanov.
- (g) Chief of Technical Control Section (OTK): Nikandrov.
- (h) Chief Designer: Kudinov, awarded a Stalin Prize together with his engineers (Glazkov, etc.) for the creation of a range of standardized gear milling machines.

11. The plant employs about 5000 workers in three shifts.

Shops

12. The plant is divided into the following shops:

1st, 2nd and 3rd Machine Shops.  
 1st and 2nd Assembly Shops  
 New Assembly Shop  
 Foundry Shop  
 New Foundry Shop  
 Forge Shop  
 Tool Shop  
 Electric Shop

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Electric Assembly Shop  
Pattern Shop  
Frame Components Shop  
Roller Shop  
Gear Wheel Shop  
Heat Treatment Shop  
Machine Repair Shop  
Transport Shop  
Steam Power Shop  
Consumer Goods Shop

Destination of Production

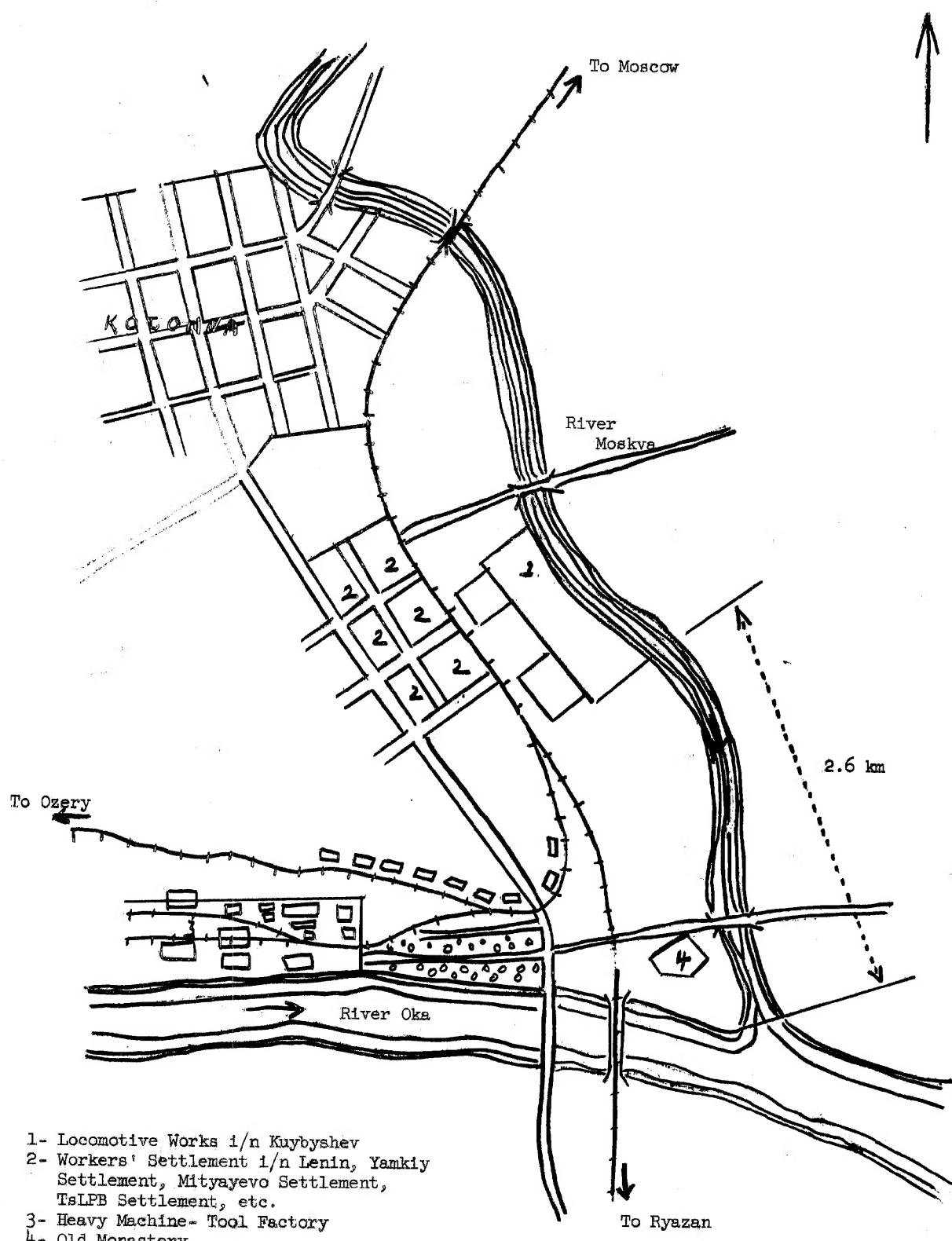
13. Production is despatched by rail to numerous factories in the USSR, e.g.:  
Novokramatorsk Heavy Engineering Works at Kramatorsk.  
Novokramatorsk Heavy Engineering Works at Elektrostal.  
Turbine Engineering Works at Riga.  
Pergale Turbine Works at Kaunas.  
Nevskiy Shipbuilding Yard at Leningrad.  
Baltic Shipbuilding Yard i/n Ordzhonikidze at Leningrad.  
Kharkov Turbo-generator Works.  
Uralmash Works at Sverdlovsk (machine-tools and large cog wheels).  
Numerous shipbuilding yards in various towns.  
Perovskiy Heavy Engineering Works at Moscow/Perovo...

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